Operated by WestAir Pneumatic Systems

COMPRESSOR SYSTEMS

CNG SERIES

CNG Modular Nitrogen Generator Series

2 YEARS WARRANTY (standard)

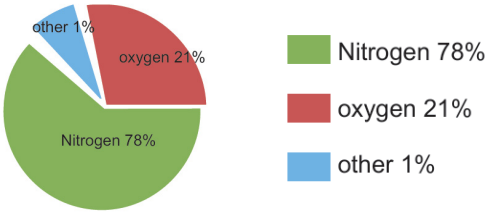
COMPRESSOR SYSTEMS' NEW CNG MODULAR NITROGEN GENERATOR SERIES

Introducing our new CNG Modular Nitrogen Generator Series, designed to deliver reliable nitrogen solutions for various industrial applications. Our generators deliver a nitrogen output with remarkable purity levels ranging from 95% to 99.999%. Engineered for optimal performance, the system operates efficiently within an air inlet pressure range of 0.6 to 0.8 MPa.

N2 FACTS

Nitrogen is widely used across various industries, including food preservation, winemaking, Lazor cutting, chemical manufacturing, electronics and pharmaceuticals.

- **Appearance:** Nitrogen is a colourless and odorless gas.
- **Presence:** It constitutes about **78.08%** of the Earth's atmosphere and is lighter than air.
- **States of Matter:** When cooled to **-195.8°C**, nitrogen becomes a clear liquid. Further cooling to **-209.8°C** transforms it into a solid, resembling snow.
- **Chemical Properties:** Nitrogen is generally unreactive at room temperature, which makes it useful for preserving food, extending shelf life, and preventing spoilage.
- **Reactivity:** Under high temperatures and energy conditions, nitrogen can react with certain substances, leading to the creation of new materials that are beneficial in various applications.



UNLOCK SUPERIOR PERFORMANCE:

Our Nitrogen Generator Offers a Comprehensive Range of Features as Standard!

Working Principle of the CNG Nitrogen Generator

The Pressure Swing Adsorption (PSA) nitrogen generator is a cutting-edge technology designed to efficiently separate nitrogen from air using a specialized material called carbon molecular sieve.

Key Features

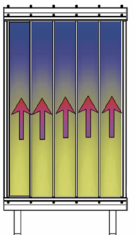
- **Fast Production:** Quickly generates nitrogen with consistent purity.
- **Energy Efficient:** Operates at room temperature and standard pressure (0.8 MPa) without the need for heating.
- **User-Friendly:** Simple operation with low maintenance needs.
- **Automated Process:** Fully automated for continuous nitrogen production.

The CNG nitrogen generator is an effective and economical solution for producing high-purity nitrogen, designed to meet your needs with exceptional performance and reliability.

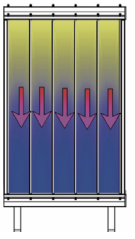
How It Works

- **Carbon Molecular Sieve:** Made from processed coal powder, this material contains tiny pores.
- **Separation Process:** Compressed air flows through a two-bed system; larger oxygen molecules are absorbed into the sieve, while smaller nitrogen molecules are concentrated.

Enhance your operations and ensure a consistent supply of high-quality nitrogen with our CNG nitrogen generator today!



Adsorption process diagram



Regeneration process diagram

MAIN SPECIFICATIONS

Nitrogen flow	0.5~1000Nm^3/h
Nitrogen purity	95~99.999%
Nitrogen pressure	0.1~0.8MPa(Adjustable)
Atmospheric dew point	-40°C ~ -70°C

COMPREHENSIVE RANGE OF COMPONENTS AS STANDARD!

- **Feed Air Filters:** Removes dust, oil, and moisture from compressed air before it enters the nitrogen generator.
- **Flow Control Valve:** Regulates nitrogen flow and maintains pressure for efficient generator operation.
- **SMC Flow Meter**: Ensures accurate measurement of nitrogen flow.
- **PLC Controller:** Offers precise monitoring and control for enhanced operational efficiency.
- **Nitrogen Purity Analyzer:** Guarantees consistent quality of the nitrogen produced.
- **Pressure Sensors:** Monitor system pressure for safety and reliability.
- **PSA Angle Valves:** Enable effective control of gas flow.
- **Inlet Dew Point Monitor:** Facilitates moisture control to ensure optimal nitrogen production.

Purity tester:
We have chosen a highly regarded nitrogen purity analyzer from a top brand to guarantee precise real-time online monitoring of nitrogen purity. This advanced analyzer ensures that you can accurately track nitrogen quality at all times.

Control pad:
Introducing our new intelligent energy-saving controller, featuring advanced sensors that optimise energy efficiency. Crafted by top brands such as Siemens, this controller ensures effective energy-saving management, allowing you to reduce consumption while maintaining optimal performance.

Adsorbent:
We utilise high-quality carbon molecular sieves from international sources to ensure maximum nitrogen production efficiency. Our commitment to using premium adsorbents guarantees superior performance and reliability in your nitrogen generation process.

Air source component:
The cylinder and solenoid valve adopt the original Taiwan AirTAC pneumatic actuator to ensure stable operation.

Aluminium cavity with process tank:
Crafted from high-strength, non-corrosive 6063-T5 aviation grade aluminum alloy, this material ensures a long service life. It can also be utilised as a built-in nitrogen process tank, maximising installation space efficiency for our customers.

Easy-to-replace mold core:
The mold core is designed for effortless replacement, allowing for quick on-site adsorbent changes. This innovation effectively addresses the challenges faced by traditional twin-tower nitrogen generators, which often struggle with lengthy replacement times and inefficient packing.

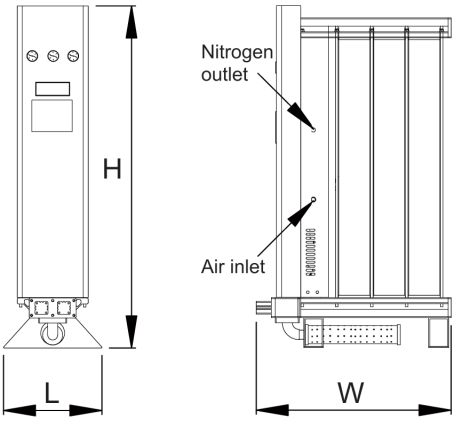
Sealing and diffusion:
We employ a two-stage O-ring seal to achieve an exceptional sealing effect. Paired with our patented diverter diffuser, the design ensures uniform passage of compressed air, effectively preventing the tunnel effect and optimizing overall performance.

FEATURES OF THE MODULAR NITROGEN GENERATOR

- **High Efficiency:** Achieve energy savings and reduced emissions with a low air-to-nitrogen ratio of 4.2:1 for 99.99% purity, compared to 5:1 for traditional twin-tower generators, saving up to 15% on energy consumption.
- **Smart Control:** Equipped with a PLC programmable control system and a high-resolution interface, it monitors air pressure, nitrogen purity, and flow. Automatic functions include removing unqualified nitrogen and energy-saving pauses.
- **Reliable Operation:** Features a unique control method that combines solenoid and pneumatic valves for stable and reliable performance, eliminating complex multi-valve systems.
- **Durable Design:** Built from high-strength, non-corrosive aluminum alloy, preventing corrosion and extending the life of the equipment. Some models include a built-in nitrogen process tank, optimizing installation space.
- **Continuous Supply:** Provides a constant supply of nitrogen around the clock to prevent production stoppages. Easily expandable; just add modules to increase capacity without replacing existing equipment.

Optimize your nitrogen production with our Modular Nitrogen Generator, designed for efficiency, reliability, and cost-effectiveness.

CNG modular nitrogen generator size chart



CNG series technical specification @ 99.5% Purity

MODEL	FLOW RATE (NM^3/H)	AIR INLET	NITROGEN OUTLET	WEIGHT (KG)	DIMENSIONS (MM) (L*W*H)
CNG-5N	5	G1/2	G1/2	180	400*860*1750
CNG-15N	15	G1/2	G1/2	240	400*1040*1750
CNG-20N	20	G1/2	G1/2	300	400*1230*1750
CNG-25	25	G1/2	G1/2	360	400*1420*1750
CNG-35	35	G3/4	G3/4	400	400*1320*1750
CNG-45	45	G3/4	G3/4	460	400*1480*1750
CNG-50	50	G3/4	G3/4	520	400*1660*1750
CNG-60	60	G3/4	G3/4	580	400*1840*1750
CNG-70	70	G1	G1	800	830*1320*1750
CNG-90	90	G1	G1	960	830*1480*1750
CNG-100	100	G1	G1	1100	830*1660*1750
CNG-120	120	G1	G1	1200	830*1840*1750

NOTE:

- When inlet air is equipped with a refrigerated dryer, the flow rate of the air compressor increases by 10%, achieving a nitrogen dew point below -30°C.
- When inlet air includes both a refrigerated dryer and a desiccant dryer, the flow rate of the air compressor increases by 20%, achieving a nitrogen dew point below -40°C.
- Models with the suffix "N" indicate the presence of a built-in nitrogen process tank; models without the suffix do not include a standard built-in tank.

Warranty

- **Standard 2-year warranty –** covers the complete compressor (terms and conditions apply).